

[CIF dictionary](#)  
[Interpreting this report](#)

# Datablock: BS\_RAS244

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Bond precision:	C-C = 0.0087 A	Wavelength=0.71073
Cell:	a=16.95(2)      b=3.974(6)      c=13.92(2)	
	alpha=90      beta=92.697(18)      gamma=90	
Temperature	100 K	
:		
	Calculated	Reported
Volume	937(2)	937(2)
Space group	P 21/c	P 21/c
Hall group	-P 2ybc	-P 2ybc
Moiety formula	C8 H7 Br N4	?
Sum formula	C8 H7 Br N4	C8 H7 Br N4
Mr	239.08	239.09
Dx,g cm-3	1.695	1.695
Z	4	4
Mu (mm-1)	4.344	4.344
F000	472.0	472.0
F000'	471.01	
h,k,lmax	20,4,17	20,4,17
Nref	1826	1828
Tmin,Tmax	0.348,0.594	0.347,0.593
Tmin'	0.298	
Correction method=	# Reported T Limits: Tmin=0.347	
Tmax=0.593 AbsCorr =	MULTI-SCAN	
Data completeness=	1.001      Theta(max)= 25.989	
R(reflections)=	0.0470( 1056)	wR2(reflections)= 0.1488( 1828)
S = 0.801	Npar= 119	

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The following ALERTS were generated. Each ALERT has the format  
**test-name\_ALERT\_alert-type\_alert-level.**  
Click on the hyperlinks for more details of the test.

## ● Alert level C

<a href="#">RINTA01_ALERT_3_C</a>	The value of Rint is greater than 0.12	
	Rint given 0.124	
<a href="#">PLAT148_ALERT_3_C</a>	s.u. on the a - Axis is (Too) Large ....	0.020 Ang.
<b>And 2 other PLAT148 Alerts</b>		
<a href="#">PLAT148_ALERT_3_C</a>	s.u. on the b - Axis is (Too) Large ....	0.0060 Ang.
<a href="#">PLAT148_ALERT_3_C</a>	s.u. on the c - Axis is (Too) Large ....	0.020 Ang.
<a href="#">PLAT341_ALERT_3_C</a>	Low Bond Precision on C-C Bonds .....	0.00871 Ang.

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## ● Alert level G

<a href="#">PLAT020_ALERT_3_G</a>	The Value of Rint is Greater Than 0.12 .....	0.124 Report
<a href="#">PLAT066_ALERT_1_G</a>	Predicted and Reported Tmin&Tmax Range Identical	? Check
<a href="#">PLAT883_ALERT_1_G</a>	No Info/Value for _atom_sites_solution_primary .	Please Do !
<a href="#">PLAT910_ALERT_3_G</a>	Missing # of FCF Reflection(s) Below Theta(Min).	1 Note
<a href="#">PLAT955_ALERT_1_G</a>	Reported (CIF) and Actual (FCF) Lmax Differ by .	1 Units
<a href="#">PLAT965_ALERT_2_G</a>	The SHELXL WEIGHT Optimisation has not Converged	Please Check
<a href="#">PLAT967_ALERT_5_G</a>	Note: Two-Theta Cutoff Value in Embedded .res ..	52.0 Degree
<a href="#">PLAT978_ALERT_2_G</a>	Number C-C Bonds with Positive Residual Density.	0 Info

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- 0 **ALERT level A** = Most likely a serious problem - resolve or explain
- 0 **ALERT level B** = A potentially serious problem, consider carefully
- 5 **ALERT level C** = Check. Ensure it is not caused by an omission or oversight
- 8 **ALERT level G** = General information/check it is not something unexpected

- 3 ALERT type 1 CIF construction/syntax error, inconsistent or missing data
- 2 ALERT type 2 Indicator that the structure model may be wrong or deficient

7 ALERT type 3 Indicator that the structure quality may be low  
0 ALERT type 4 Improvement, methodology, query or suggestion  
1 ALERT type 5 Informative message, check

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It is advisable to attempt to resolve as many as possible of the alerts in all categories. Often the minor alerts point to easily fixed oversights, errors and omissions in your CIF or refinement strategy, so attention to these fine details can be worthwhile. In order to resolve some of the more serious problems it may be necessary to carry out additional measurements or structure refinements. However, the purpose of your study may justify the reported deviations and the more serious of these should normally be commented upon in the discussion or experimental section of a paper or in the "special\_details" fields of the CIF. checkCIF was carefully designed to identify outliers and unusual parameters, but every test has its limitations and alerts that are not important in a particular case may appear. Conversely, the absence of alerts does not guarantee there are no aspects of the results needing attention. It is up to the individual to critically assess their own results and, if necessary, seek expert advice.

### **Publication of your CIF in IUCr journals**

A basic structural check has been run on your CIF. These basic checks will be run on all CIFs submitted for publication in IUCr journals (*Acta Crystallographica*, *Journal of Applied Crystallography*, *Journal of Synchrotron Radiation*); however, if you intend to submit to *Acta Crystallographica Section C* or *E* or *IUCrData*, you should make sure that [full publication checks](#) are run on the final version of your CIF prior to submission.

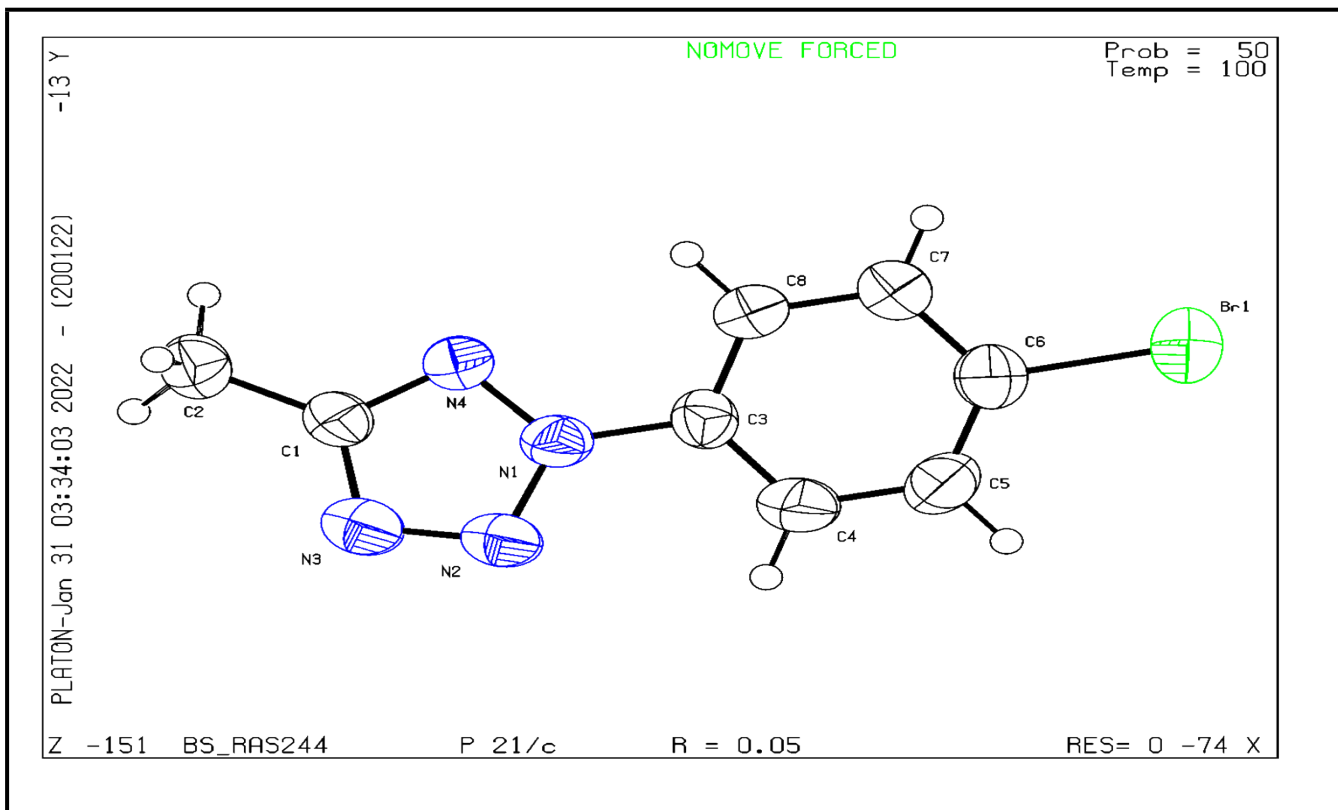
### **Publication of your CIF in other journals**

Please refer to the *Notes for Authors* of the relevant journal for any special instructions relating to CIF submission.

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PLATON version of 20/01/2022; check.def file version of 19/01/2022

**Datablock BS\_RAS244 - ellipsoid plot**



[Download CIF editor \(publCIF\) from the IUCr](#)  
[Download CIF editor \(enCIFer\) from the CCDC](#)  
[Test a new CIF entry](#)



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**test-name\_ALERT\_alert-type\_alert-level.**

Click on the hyperlinks for more details of the test.

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 **Alert level B**

PLAT196_ALERT_1_B	No TEMP record and _measurement_temperature .NE.	293 Degree
PLAT919_ALERT_3_B	Reflection # Likely Affected by the Beamstop ...	1 Check

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 **Alert level C**

PLAT148_ALERT_3_C	s.u. on the a - Axis is (Too) Large ....	0.013 Ang.
PLAT148_ALERT_3_C	s.u. on the b - Axis is (Too) Large ....	0.0160 Ang.
PLAT148_ALERT_3_C	s.u. on the c - Axis is (Too) Large ....	0.009 Ang.
PLAT934_ALERT_3_C	Number of (Iobs-Icalc)/Sigma(W) > 10 Outliers ..	1 Check

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 **Alert level G**

PLAT066_ALERT_1_G	Predicted and Reported Tmin&Tmax Range Identical	? Check
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary .	Please Do !
PLAT965_ALERT_2_G	The SHELXL WEIGHT Optimisation has not Converged	Please Check
PLAT967_ALERT_5_G	Note: Two-Theta Cutoff Value in Embedded .res ..	52.0 Degree
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.	0 Info

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-

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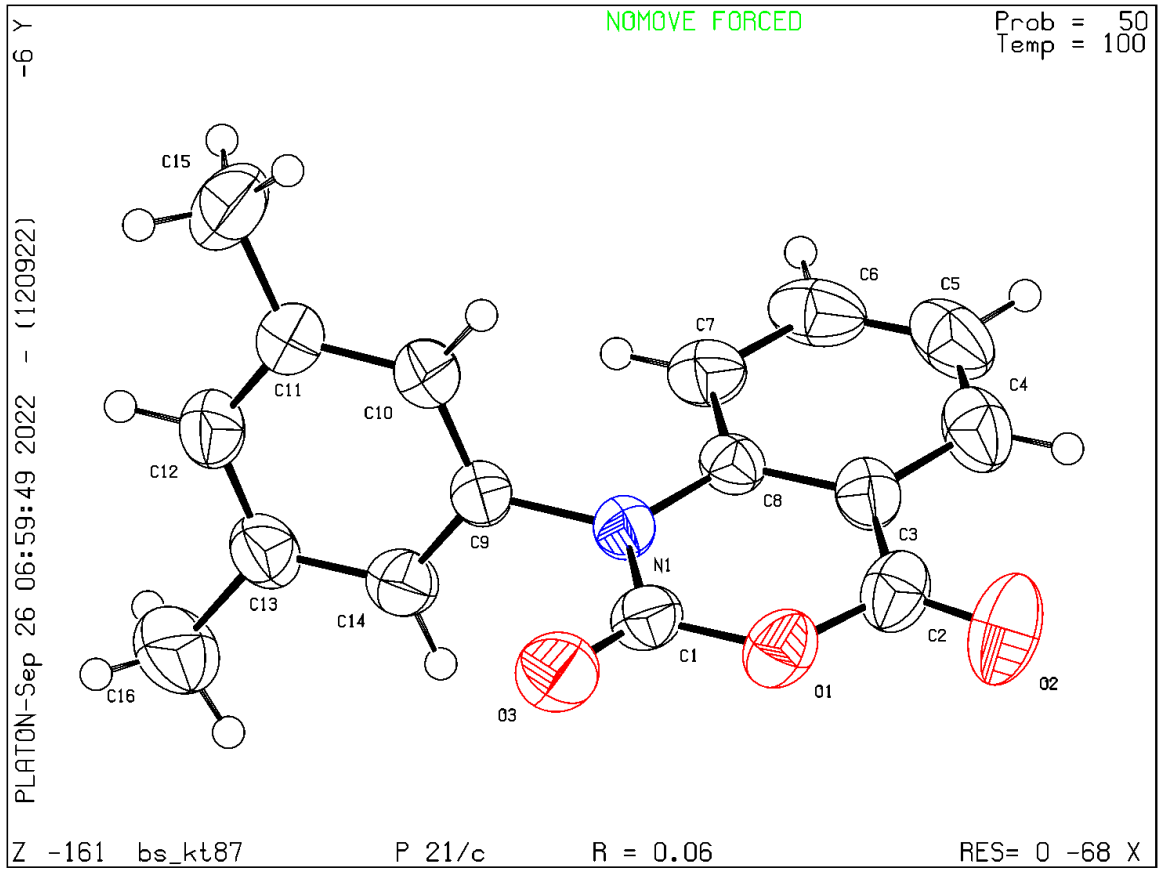
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**PLATON version of 12/09/2022; check.def file version of 09/08/2022**







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**test-name\_ALERT\_alert-type\_alert-level.**

Click on the hyperlinks for more details of the test.

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● **Alert level C**

PLAT148_ALERT_3_C	s.u. on the	a	- Axis is (Too) Large ....	0.050 Ang.
PLAT148_ALERT_3_C	s.u. on the	b	- Axis is (Too) Large ....	0.0400 Ang.
PLAT148_ALERT_3_C	s.u. on the	c	- Axis is (Too) Large ....	0.060 Ang.
PLAT340_ALERT_3_C	Low Bond Precision on	C-C Bonds .....		0.006 Ang.

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● **Alert level G**

PLAT066_ALERT_1_G	Predicted and Reported Tmin&Tmax Range Identical	? Check
PLAT883_ALERT_1_G	No Info/Value for _atom_sites_solution_primary .	Please Do !
PLAT965_ALERT_2_G	The SHELXL WEIGHT Optimisation has not Converged	Please Check
PLAT967_ALERT_5_G	Note: Two-Theta Cutoff Value in Embedded .res ..	52.0 Degree
PLAT978_ALERT_2_G	Number C-C Bonds with Positive Residual Density.	0 Info

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1 ALERT type 5 Informative message, check
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-

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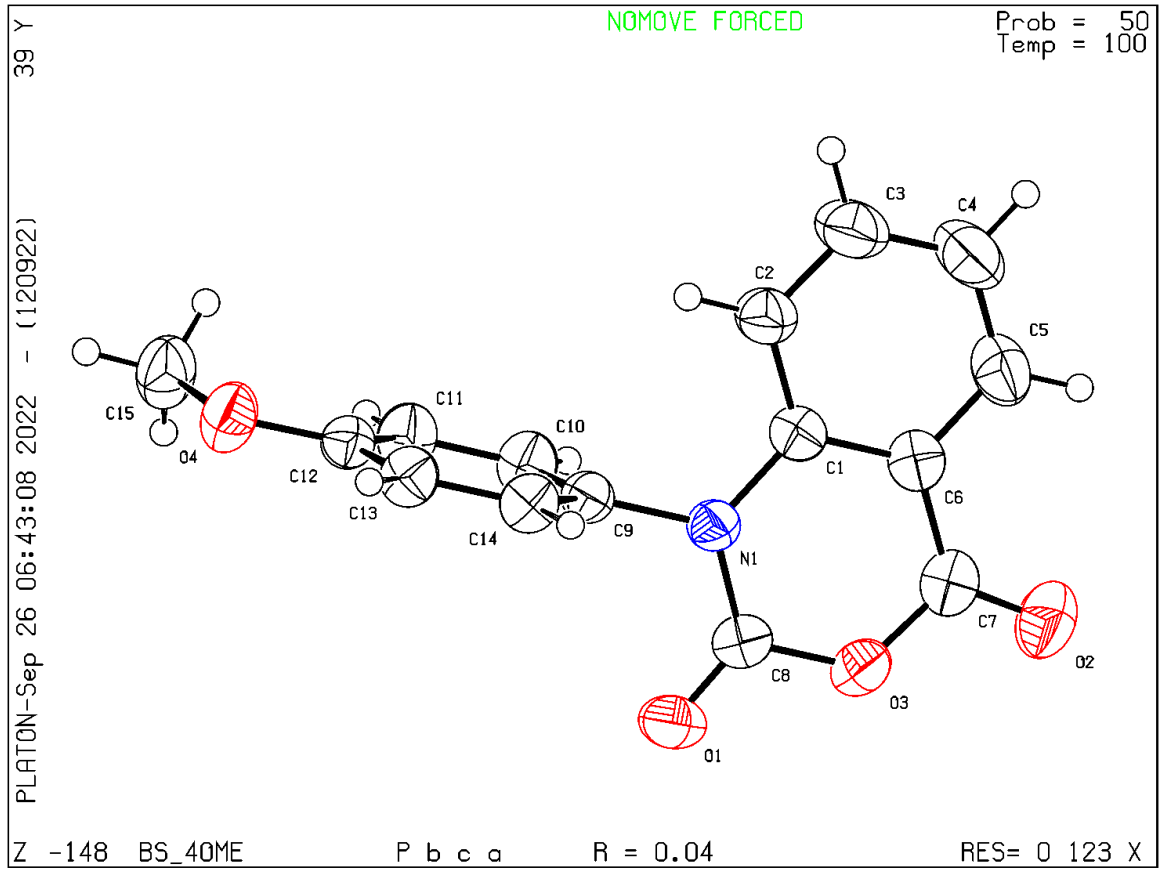
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**PLATON version of 12/09/2022; check.def file version of 09/08/2022**





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**test-name\_ALERT\_alert-type\_alert-level.**

Click on the hyperlinks for more details of the test.

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● **Alert level C**

PLAT230\_ALERT\_2\_C Hirshfeld Test Diff for C15 --C16 . 5.5 s.u.  
PLAT334\_ALERT\_2\_C Small <C-C> Benzene Dist. C8 -C13 . 1.37 Ang.

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● **Alert level G**

PLAT066\_ALERT\_1\_G Predicted and Reported Tmin&Tmax Range Identical ? Check  
PLAT883\_ALERT\_1\_G No Info/Value for \_atom\_sites\_solution\_primary . Please Do !  
PLAT967\_ALERT\_5\_G Note: Two-Theta Cutoff Value in Embedded .res .. 52.0 Degree  
PLAT978\_ALERT\_2\_G Number C-C Bonds with Positive Residual Density. 2 Info

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## Validation response form

Please find below a validation response form (VRF) that can be filled in and pasted into your CIF.

```
# start Validation Reply Form
_vrf_PLAT230_BS_RAS105_0m_a
;
PROBLEM: Hirshfeld Test Diff for C15 --C16 . 5.5 s.u.
RESPONSE: ...
;
_vrf_PLAT334_BS_RAS105_0m_a
;
PROBLEM: Small <C-C> Benzene Dist. C8 -C13 . 1.37 Ang.
RESPONSE: ...
;
# end Validation Reply Form
```

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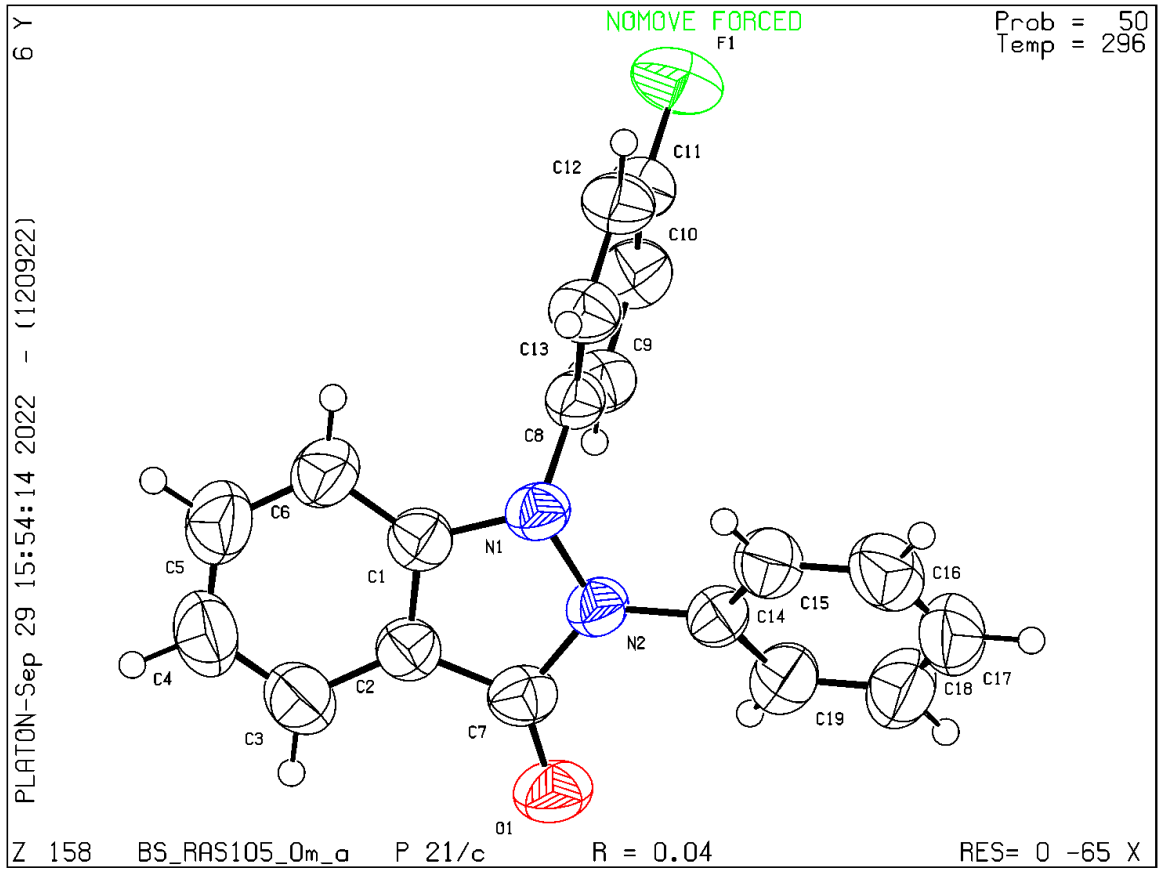
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**PLATON version of 12/09/2022; check.def file version of 09/08/2022**



## List of Publications

### Journals:

- [1] **Saikia, R. A.**, Barman, D., Dutta, A. and Thakur, A. J. *N*<sup>1</sup>-and *N*<sup>3</sup>-Arylations of Hydantoins Employing Diaryliodonium Salts via Copper-(I) Catalysis at Room Temperature. *European Journal of Organic Chemistry*, 2021(3):400-410, 2021. ([https://mjl.clarivate.com:/search-results?issn=1434-193X&hide\\_exact\\_match\\_fl=true&utm\\_source=mjl&utm\\_medium=share-by-link&utm\\_campaign=search-results-share-this-journal](https://mjl.clarivate.com:/search-results?issn=1434-193X&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal))
- [2] **Saikia, R. A.**, Hazarika, N., Biswakarma, N., Deka, R. C. and Thakur, A. J. Metal-free *S*-arylation of 5-mercaptotetrazoles and 2-mercaptopyridine with unsymmetrical diaryliodonium salts. *Organic & Biomolecular Chemistry*, 20(19):3890-3896, 2022. ([https://mjl.clarivate.com:/search-results?issn=1477-0520&hide\\_exact\\_match\\_fl=true&utm\\_source=mjl&utm\\_medium=share-by-link&utm\\_campaign=search-results-share-this-journal](https://mjl.clarivate.com:/search-results?issn=1477-0520&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal))
- [3] **Saikia, R. A.**, Dutta, A., Sarma, B. and Thakur, A. J. Metal-Free Regioselective *N*<sup>2</sup>-Arylation of 1*H*-Tetrazoles with Diaryliodonium Salts. *The Journal of Organic Chemistry*, 87(15):9782-9796, 2022. ([https://mjl.clarivate.com:/search-results?issn=0022-3263&hide\\_exact\\_match\\_fl=true&utm\\_source=mjl&utm\\_medium=share-by-link&utm\\_campaign=search-results-share-this-journal](https://mjl.clarivate.com:/search-results?issn=0022-3263&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal))
- [4] **Saikia, R. A.**, Talukar, K., Pathak, D., Sarma, B. and Thakur, A. J. Utilization of Aryl(TMP)iodonium Salts for Copper-catalyzed *N*-Arylation of Isatoic Anhydrides: An Avenue to fenamic acid derivatives and *N,N'*-diarylindazol-3-ones. *The Journal of Organic Chemistry* (just accepted, DOI: 10.1021/acs.joc.2c02762). ([https://mjl.clarivate.com:/search-results?issn=0022-3263&hide\\_exact\\_match\\_fl=true&utm\\_source=mjl&utm\\_medium=share-by-link&utm\\_campaign=search-results-share-this-journal](https://mjl.clarivate.com:/search-results?issn=0022-3263&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal))
- [5] Dutta, A., **Saikia, R. A.** and Jyoti Thakur, A. A Mechanistic Approach to Liquid-Assisted Mechanochemical Synthesis of 5-Aryl/Spiro-[1,2,4]-triazolidine-3-thiones. *European Journal of Organic Chemistry*, 2022(34):e202101472, 2022. ([https://mjl.clarivate.com:/search-results?issn=1434-193X&hide\\_exact\\_match\\_fl=true&utm\\_source=mjl&utm\\_medium=share-by-link&utm\\_campaign=search-results-share-this-journal](https://mjl.clarivate.com:/search-results?issn=1434-193X&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal))
- [6] Borah, M. J., Devi, A., **Saikia, R. A.** and Deka, D. Biodiesel production from waste cooking oil catalyzed by *in-situ* decorated TiO<sub>2</sub> on reduced graphene oxide



nanocomposite. *Energy*, 158:881-889, 2018. ([https://mjl.clarivate.com:/search-results?issn=0360-5442&hide\\_exact\\_match\\_fl=true&utm\\_source=mjl&utm\\_medium=share-by-link&utm\\_campaign=search-results-share-this-journal](https://mjl.clarivate.com:/search-results?issn=0360-5442&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal))

**Book Chapter:**

- [1] **Saikia, R. A.** and Saikia, R. A study on organic solvents: Its necessity, its impact on the environment and sustainable alternatives. In Narzary, A., Begum, P. and Bhagawati, C., editors, *Environment: Climate Change and Natural Challenges*, pages 22-41, ISBN: 978-93-90919-60-4. Gargaon College Publication Cell & Purbayon Publication, 2021.
- [2] **Saikia, R. A.** 2-iodoxybenzoic Acid (IBX): An Organohypervalent Iodine Compound as Mainstream Oxidant in Organic Synthesis. In Mahanta, S. M. and Kalita, D., editors, *Aspects of Sustainable Chemical Sciences*, pages 98-117, ISBN: 978-93-89940-82-4. Purbayon Publication, 2020.

## List of Conferences

### As Abstract

#### **Oral Presentation:**

- [1] **Saikia R. A.** and Thakur, A. J. *N-arylations of Hydantoins Employing Diaryliodonium Salts via Copper(I) Catalysis at Room Temperature*. International Conference (Virtual) on The Present and Future of Excellence in Organic Synthesis (PFEOS-2021), Organized by Department of Chemical Sciences, Tezpur University, Tezpur, 7<sup>th</sup>-8<sup>th</sup> January 2021.
- [2] **Saikia R. A.**, and Thakur, A. J. *Room Temperature Copper-Catalyzed N-Arylations of Hydantoins employing Diaryliodonium Salts*. National Seminar on Science for Sustainable Development (SSD-2020), Organized by Department of Chemistry, B. Borooah College, Guwahati, 25<sup>th</sup>-26<sup>th</sup> September 2020.

#### **Poster Presentation:**

- [1] **Saikia, R. A.**, Barman, D., Dutta, A. and Thakur, A. J. *Copper-Catalyzed N-Arylations of Hydantoins with Diaryliodonium Salts*. International Conference on Emerging Trends in Chemical Sciences (ETCS 2020), Organized by Department of Chemistry, Gauhati University, Guwahati, 13<sup>th</sup>-15<sup>th</sup> February 2020.
- [2] **Saikia, R. A.**, and Thakur, A. J. *Copper-Catalyzed N-Arylations of Hydantoins employing Diaryliodonium Salts at Room Temperature*. First virtual J-NOST symposium; XVI-J-NOST, Organized by Indian Institute of Science, Bangalore, 31<sup>st</sup> October-1<sup>st</sup> November 2020.